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13/5/1 (Item 1 from file: 340)

. DIALOG(R)File 340:CLAIMS(R)/US Patent
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C/COMPOSITIONS AND METHODS FOR NEGATIVE REGULATION OF TGF-BETA PATHWAYS

Document Type: Utility

Document Type: Patent Application-First Publication

Inventors: Laughon Allen S (US)

Assignee: Unassigned Or Assigned To Individual

Assignee Code: 68000

Kind	Publication Number	Date	Application Number	Date
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	A1 US 20020137662	20020926	US 2001810385	20010316
Priority Applic:			US 2001810385	20010316

Abstract: Methods for screening for compounds that are negative regulators of TGF- beta -regulated gene expression in mammalian cells are provided, including compositions identified therefrom.

Exemplary Claim: D R A W I N G

1. A method for identifying compounds that directly interact with a Smadprotein or a Smad protein co-repressor to prevent protein-protein or protein-DNA interactions required for repression of transcriptioninduced by TGF- beta , activin or bone morphogenetic protein signaling in cells comprising: (a) determining a first level of transcriptiondetected in cells in the presence of a Smad protein and a CtBP protein before addition of a test compound; (b) contacting said cells with the test compound; and (c) determining a second level of transcriptiondetected in cells in the presence of a Smad protein and a CtBP protein after addition of the test compound, wherein a decrease in the level of repression oftranscriptioninduced by the presence of theSmadprotein and the CtBP protein is indicative of the ability of the test compound to interfere withtranscriptional repression and to prevent repression oftranscriptionthat is produced by a TGF- beta , activin, or bone morphogenetic protein signal in cells.

Class: 514001000

Class Cross Ref: 435007200

IPC: A61K-031/00 (Edition 07)

IPC Cross Ref: G01N-033/53; G01N-033/567

13/5/2 (Item 1 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00942700 **Image available**

COMPOSITIONS AND METHODS FOR NEGATIVE REGULATION OF TGF-BETA PATHWAYS

COMPOSITIONS ET PROCEDES POUR LA REGULATION NEGATIVE DES VOIES DE FACTEUR

DE CROISSANCE TRANSFORMANT BETA

Patent Applicant/Assignee:

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53705, US, US (Residence), US (Nationality)

Inventor(s):

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Legal Representative:

LICATA Jane Massey (et al) (agent), Licata & Tyrrell P.C., 66 E. Main

Street, Marlton, NJ 08053, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200276466 A1 20021003 (WO 0276466)
Application: WO 2002US8133 20020315 (PCT/WO US0208133)
Priority Application: US 2001810385 20010316
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU
CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP
KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO
RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: A61K-031/70
International Patent Class: A01N-043/04; C07K-014/00; C12Q-001/68
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 4842

English Abstract

Methods for screening for compounds that are negative regulators of
TGF-beta-regulated gene expression in mammalian cells are provided,
including compositions identified therefrom.

French Abstract

La presente invention concerne des procedes de criblage de composes qui
sont des regulateurs negatifs de l'expression genetique regulee de
TGF-beta dans des cellules mammaliennes, ainsi que des compositions qui
sont identifiees a partir de ceux-ci. FIG. 1 : A beta-GALACTOSIDASE B 5
NANOGRAMMES DE MAD/20 NANOGRAMMES DE MEDEA C 0 NANOGRAMMES DE MEDEA, 0
NANOGRAMMES DE MAD D NANOGRAMMES DE LA PROTEINE dCtB

Legal Status (Type, Date, Text)

Publication 20021003 A1 With international search report.
Publication 20021003 A1 Before the expiration of the time limit for
amending the claims and to be republished in the
event of the receipt of amendments.
Examination 20030109 Request for preliminary examination prior to end of
19th month from priority date

13/5/3 (Item 2 from file: 349)
DIALOG(R) File 349:PCT FULLTEXT
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00768498

NUCLEIC ACID BINDING OF MULTI-ZINC FINGER TRANSCRIPTION FACTORS
LIAISON D'ACIDE NUCLEIQUE A DES FACTEURS DE TRANSCRIPTION DE DOIGT
MULTI-ZINC

Patent Applicant/Assignee:

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(Nationality), (For all designated states except: US)

Patent Applicant/Inventor:

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BE (Nationality), (Designated only for: US)

Legal Representative:

VLAAMS INTERUNIVERSITAIR INSTITUUT VOOR BIOTECHNOLOGIE VZW (commercial

rep.), Rijvisschestraat 120, B-9052 Zwijnaarde, BE.
 Patent and Priority Information (Country, Number, Date):
 Patent: WO 200100864 A2-A3 20010104 (WO 0100864)
 Application: WO 2000EP5582 20000609 (PCT/WO EP0005582)
 Priority Application: EP 99202068 19990625
 Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE
 DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC
 LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK
 SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
 (EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
 (OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
 (AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
 (EA) AM AZ BY KG KZ MD RU TJ TM
 Main International Patent Class: C12Q-001/00
 Publication Language: English
 Filing Language: English
 Fulltext Availability:
 Detailed Description
 Claims
 Fulltext Word Count: 23477

English Abstract

The invention concerns a method of identifying **transcription factors** comprising providing cells with a nucleic acid sequence at least comprising a sequence CACCT as bait for the screening of a library encoding potential **transcription factors** and performing a specificity test to isolate said factors. Preferably the bait comprises twice the CACCT sequence, more particularly the bait comprises one of the sequences CACCT-N-CACCT, CACCT-N-AGGTG, AGGTG-N-CACCT or AGGTG-N-AGGTG wherein N is a spacer sequence. The identified **transcription factor(s)** using the method according to the invention comprises separated clusters of zinc fingers such as for example a two-handed zinc finger **transcription factor**. The present invention further discloses that at least one such zinc finger **transcription factor**, denominated as SIP1, induces tumor metastasis by downregulation of the expression of E-cadherin. Compounds interfering with **SIP1** activity can thus be used to prevent tumor invasion and metastasis.

French Abstract

L'invention concerne un procede d'identification de facteurs de **transcription** permettant d'apporter a des cellules une sequence d'acide nucleique comprenant au moins une sequence CACCT comme appat dans le criblage d'une bibliotheque codant les facteurs de **transcription** potentiels et executant un test specifique pour eliminer ces facteurs. L'appat comprend, de preference, deux sequence CACCT, plus particulierement, l'appat comprend une des sequences CACCT-N-CACCT, CACCT-N-AGGTG, AGGTG-N-CACCT ou AGGTG-N-AGGTG dans lesquelles N represente une sequence d'espacement. Le(s) facteur(s) de **transcription** identifie(s) utilisant le procede de l'invention comprend (comprennent) des groupes separes de doigts de zinc tels que par exemple un facteur de **transcription** de doigt de zinc a deux mains. En outre, la presente invention indique qu'au moins un facteur de **transcription** de doigt de zinc, appele **SIP1**, provoque des metastases tumorales par regulation a la baisse de l'expression de E-cadherine. Les composés interférents avec l'activité **SIP1** peuvent ainsi être utilisés pour empêcher l'invasion de tumeurs et la métastase.

Legal Status (Type, Date, Text)

Publication 20010104 A2 Without international search report and to be republished upon receipt of that report.
 Examination 20010308 Request for preliminary examination prior to end of 19th month from priority date
 Search Rpt 20011129 Late publication of international search report
 Republication 20011129 A3 With international search report.
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T S30/5/ALL

30/5/1 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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13094321 BIOSIS NO.: 200100301470

The corepressorCTBP is involved in Evi-1 mediated repression of TGF-beta signaling.

AUTHOR: Izutsu Koji(a); Kurokawa Mineo(a); Imai Yoichi(a); Mitani Kinuko(a)
; Hirai Hisamaru(a)

AUTHOR ADDRESS: (a)Department of Hematology and Oncology, Graduate School
of Medicine, University of Tokyo, Tokyo**Japan

JOURNAL: Blood 96 (11 Part 1):p90a November 16, 2000

MEDIUM: print

CONFERENCE/MEETING: 42nd Annual Meeting of the American Society of
Hematology San Francisco, California, USA December 01-05, 2000

SPONSOR: American Society of Hematology

ISSN: 0006-4971

RECORD TYPE: Abstract

LANGUAGE: English

SUMMARY LANGUAGE: English

ABSTRACT: Evi-1 is a zinc finger nuclear protein whose inappropriate expression leads to leukemic transformation of hematopoietic cells in mice and humans. Evi-1 is shown to be highly expressed in human myeloid leukemias and myelodysplastic syndromes by chromosomal rearrangements involving 3q26. It is also aberrantly expressed as a fusion transcript with AML1 (AML1/Evi-1), which leads to blastic transformation in patients with chronic myelogenous leukemia. We previously showed that Evi-1 and AML1/Evi-1 block the antiproliferative effect of TGF-beta. They represses TGF-beta signaling by direct interaction with Smad3 through their first zinc finger motif. Here, we demonstrate that Evi-1 represses Smad-induced transcription by recruiting CtBP as a corepressor. CtBP was originally identified as a protein which interacts with C-terminal region of adenoviral oncoprotein E1A. CtBP is ubiquitously expressed including hematopoietic cells, and has been shown to act as a corepressor of certain transcriptional repressors, such as BKLF, FOG, and TCF. We show that Evi-1 directly associates with CtBP1 through one of the consensus binding motifs, and this association is required for efficient inhibition of TGF-beta signaling. A specific inhibitor for histone deacetylase (HDAC) alleviates Evi-1-mediated repression of TGF-beta signaling, suggesting that HDAC is involved in the transcriptional repression by Evi-1. This identifies a novel function of Evi-1 as a member of corepressor complexes and suggests that aberrant recruitment of corepressors is one of the mechanisms for Evi-1-induced leukemogenesis.

REGISTRY NUMBERS: 115640-43-2:EVI-1

DESCRIPTORS:

MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Blood and
Lymphatics (Transport and Circulation); Tumor Biology

BIOSYSTEMATIC NAMES: Hominidae--Primates, Mammalia, Vertebrata, Chordata,
Animalia

ORGANISMS: human (Hominidae)

ORGANISMS: PARTS ETC: chromosome 3--q26

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Animals; Chordates; Humans;
Mammals; Primates; Vertebrates

DISEASES: acute myeloid leukemia--blood and lymphatic disease, neoplastic
disease

CHEMICALS & BIOCHEMICALS: AML1/Evi-1; CTBP --corepressor; Evi-1 --
zinc finger nuclear protein; transforming growth factor-beta--EVI-1
mediated signaling repression

MISCELLANEOUS TERMS: Meeting Abstract

ALTERNATE INDEXING: Leukemia, Myeloid (MeSH)

CONCEPT CODES:

24010 Neoplasms and Neoplastic Agents-Blood and Reticuloendothelial
Neoplasms
00520 General Biology-Symposia, Transactions and Proceedings of
Conferences, Congresses, Review Annuals
10060 Biochemical Studies-General
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
15002 Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph
Studies
15004 Blood, Blood-Forming Organs and Body Fluids-Blood Cell Studies
15006 Blood, Blood-Forming Organs and Body Fluids-Blood, Lymphatic and
Reticuloendothelial Pathologies
24004 Neoplasms and Neoplastic Agents-Pathology; Clinical Aspects;
Systemic Effects
BIOSYSTEMATIC CODES:
86215 Hominidae

30/5/2 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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13037417 BIOSIS NO.: 200100244566

The corepressor CtBP interacts with Evi-1 to repress transforming growth factor beta signaling.

AUTHOR: Izutsu Koji; Kurokawa Mineo; Imai Yoichi; Maki Kazuhiro; Mitani
Kinuko; Hirai Hisamaru(a)

AUTHOR ADDRESS: (a)Dept of Hematology and Oncology, Graduate School of
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hhirai-tyk@umin.ac.jp**Japan

JOURNAL: Blood 97 (9):p2815-2822 May 1, 2001

MEDIUM: print

ISSN: 0006-4971

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

SUMMARY LANGUAGE: English

ABSTRACT: Evi-1 is a zinc finger nuclear protein whose inappropriate expression leads to leukemic transformation of hematopoietic cells in mice and humans. This was previously shown to block the antiproliferative effect of transforming growth factor beta (TGF-beta). Evi-1 represses TGF-beta signaling by direct interaction with Smad3 through its first zinc finger motif. Here, it is demonstrated that Evi-1 represses Smad-induced transcription by recruiting C-terminal binding protein (CtBP) as a corepressor. Evi-1 associates with CtBP1 through one of the consensus binding motifs, and this association is required for efficient inhibition of TGF-beta signaling. A specific inhibitor for histone deacetylase (HDAC) alleviates Evi-1-mediated repression of TGF-beta signaling, suggesting that HDAC is involved in the transcriptional repression by Evi-1. This identifies a novel function of Evi-1 as a member of corepressor complexes and suggests that aberrant recruitment of corepressors is one of the mechanisms for Evi-1-induced leukemogenesis.

REGISTRY NUMBERS: 115640-43-2: **EVI-1** ; 9076-57-7: **HISTONE DEACETYLASE**

DESCRIPTORS:

MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Blood and Lymphatics (Transport and Circulation); Tumor Biology

BIOSYSTEMATIC NAMES: Hominidae--Primates, Mammalia, Vertebrata, Chordata, Animalia; Muridae--Rodentia, Mammalia, Vertebrata, Chordata, Animalia

ORGANISMS: human (Hominidae); mouse (Muridae)--animal model

ORGANISMS: PARTS ETC: hematopoietic cells--blood and lymphatics

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Animals; Chordates; Humans; Mammals; Nonhuman Mammals; Nonhuman Vertebrates; Primates; Rodents; Vertebrates

DISEASES: myelodysplastic syndrome--blood and lymphatic disease,

neoplastic disease

CHEMICALS & BIOCHEMICALS: C-terminal binding protein 1 {CtBP1}--
corepressor; Evi-1 --zinc finger nuclear protein; histone
deacetylase; transforming growth factor-beta--signaling repression
MISCELLANEOUS TERMS: leukemogenesis

ALTERNATE INDEXING: Myelodysplastic Syndromes (MeSH)

CONCEPT CODES:

10060 Biochemical Studies-General
02506 Cytology and Cytochemistry-Animal
02508 Cytology and Cytochemistry-Human
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
15002 Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph
Studies
15004 Blood, Blood-Forming Organs and Body Fluids-Blood Cell Studies
15006 Blood, Blood-Forming Organs and Body Fluids-Blood, Lymphatic and
Reticuloendothelial Pathologies
24004 Neoplasms and Neoplastic Agents-Pathology; Clinical Aspects;
Systemic Effects
24010 Neoplasms and Neoplastic Agents-Blood and Reticuloendothelial
Neoplasms

BIOSYSTEMATIC CODES:

86215 Hominidae
86375 Muridae

30/5/3 (Item 3 from file: 5)

DIALOG(R) File 5: Biosis Previews(R)

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12248967 BIOSIS NO.: 200000002469

**Basic Kruppel-like factor functions within a network of interacting
haematopoietic transcription factors.**

AUTHOR: Turner Jeremy; Crossley Merlin(a)

AUTHOR ADDRESS: (a) Department of Biochemistry, G08, University of Sydney,
Sydney, NSW, 2006**Australia

JOURNAL: International Journal of Biochemistry & Cell Biology 31 (10):p

1169-1174 Oct., 1999

ISSN: 1357-2725

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

SUMMARY LANGUAGE: English

ABSTRACT: Basic Kruppel-like Factor (BKLf) is a recently recognized member of a small group of transcription factors that bind CACCC motifs in DNA, by means of three highly conserved C-terminal Kruppel-like (typically Cys-X2-4-Cys-X12-His-X3-4-His) zinc fingers. Together with Erythroid Kruppel-like Factor (EKLF), it is one of the most abundant CACCC-binding proteins in erythroid cells. In contrast to EKLF, BKLf can act to repress transcription and thus may serve to moderate EKLF activity in vivo. Interestingly, it has also been shown that BKLf expression in erythroid cells is dependent on EKLF. Analysis of proteins interacting with BKLf indicates that it represses transcription by recruiting the general co-repressor protein CtBP, a cofactor that also associates with other haematopoietic transcriptional repressors such as Evi-1 and ZEB/AREB6. The observation that mice deficient in BKLf exhibit a myeloproliferative disorder suggests that BKLf regulates important processes involved in haema topoietic differentiation.

REGISTRY NUMBERS: 115640-43-2: EVI-1

DESCRIPTORS:

MAJOR CONCEPTS: Molecular Genetics (Biochemistry and Molecular
Biophysics); Blood and Lymphatics (Transport and Circulation)

BIOSYSTEMATIC NAMES: Hominidae--Primates, Mammalia, Vertebrata, Chordata,
Animalia; Muridae--Rodentia, Mammalia, Vertebrata, Chordata, Animalia

ORGANISMS: human (Hominidae); mouse (Muridae)
 ORGANISMS: PARTS ETC: erythroid cell--blood and lymphatics
 BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Animals; Chordates; Humans;
 Mammals; Nonhuman Mammals; Nonhuman Vertebrates; Primates; Rodents;
 Vertebrates
 DISEASES: myeloproliferative disorder--blood and lymphatic disease
 CHEMICALS & BIOCHEMICALS: CtBP ; DNA-- transcription ; Evi-1 ;
 ZEB/AREB6; basic Kruppel-like factor--transcriptionfactor;
 erythroid Kruppel-like factor--transcriptionfactor
 CONCEPT CODES:
 10060 Biochemical Studies-General
 02506 Cytology and Cytochemistry-Animal
 10300 Replication, Transcription, Translation
 15008 Blood, Blood-Forming Organs and Body Fluids-Lymphatic Tissue and
 Reticuloendothelial System
 15004 Blood, Blood-Forming Organs and Body Fluids-Blood Cell Studies
 03506 Genetics and Cytogenetics-Animal
 BIOSYSTEMATIC CODES:
 86215 Hominidae
 86375 Muridae

30/5/4 (Item 4 from file: 5)
 DIALOG(R)File 5:Biosis Previews(R)
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11661557 BIOSIS NO.: 199800443288
Cloning and characterization of mCtBP2, a co-repressor that associates with basic Kruppel-like factor and other mammalian transcriptional regulators.
 AUTHOR: Turner Jeremy; Crossley Merlin(a)
 AUTHOR ADDRESS: (a)Dep. Biochem., G08, Univ. Sydney, Sydney, NSW 2006**
 Australia
 JOURNAL: EMBO (European Molecular Biology Organization) Journal 17 (17):p
 5129-5140 Sept. 1, 1998
 ISSN: 0261-4189
 DOCUMENT TYPE: Article
 RECORD TYPE: Abstract
 LANGUAGE: English

ABSTRACT: Basic Kruppel-like factor (BKLF) is a zinc finger protein that recognizes CACCC elements in DNA. It is expressed highly in erythroid tissues, the brain and other selected cell types. We have studied the activity of BKLF and found that it is capable of repressing **transcription**, and have mapped its repression domain to the N-terminus. We carried out a two-hybrid screen against BKLF and isolated a novel clone encoding murine C-terminal-binding protein 2 (mCtBP2). mCtBP2 is related to humanCtBP, a cellular protein which binds to a Pro-X-Asp-Leu-Ser motif in the C-terminus of the adenoviral oncoprotein, E1a. We show that mCtBP2 recognizes a related motif in the minimal repression domain of BKLF, and the integrity of this motif is required for repression activity. Moreover, when tethered to a promoter by a heterologous DNA-binding domain, mCtBP2 functions as a potent repressor. Finally, we demonstrate that mCtBP2 also interacts with the mammalian **transcriptionfactors** Evi-1, AREB6, ZEB and FOG. These results establish a new member of theCtBPfamily, mCtBP2, as a mammalian co-repressor targeting diverse transcriptional regulators.

REGISTRY NUMBERS: 115640-43-2:EVI-1

DESCRIPTORS:

MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Methods and Techniques

BIOSYSTEMATIC NAMES: Diptera--Insecta, Arthropoda, Invertebrata, Animalia
 ; Mammalia--Vertebrata, Chordata, Animalia; Muridae--Rodentia, Mammalia
 , Vertebrata, Chordata, Animalia

ORGANISMS: mammal (Mammalia); NIH 3T3 (Muridae); SL2 (Diptera)

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Animals; Arthropods; Chordates
; Insects; Invertebrates; Mammals; Nonhuman Mammals; Nonhuman
Vertebrates; Rodents; Vertebrates
CHEMICALS & BIOCHEMICALS: basic Kruppel-like factor; mCtBP2 {murine
C-terminal-binding protein 2}--characterization, cloning;
transcriptional regulators; AREB6--**transcriptionfactor**; DNA;
Evi-1 -- transcription factor; FOG-- transcription factor; ZEB--
transcriptionfactor
METHODS & EQUIPMENT: cloning--Recombinant DNA Technology, cloning method;
gel mobility shift assay--Analysis/Characterization Techniques--CB,
analytical method; gel retardation assay--Analysis/Characterization
Techniques--CB, analytical method; transactivation assay--
Analysis/Characterization Techniques--CB, analytical method;
transrepression assay--Analysis/Characterization Techniques--CB,
analytical method; two-hybrid screen--Qualitative/Quantitative
Techniques, screening method
MISCELLANEOUS TERMS: amino acid sequence
CONCEPT CODES:
10060 Biochemical Studies-General
03506 Genetics and Cytogenetics-Animal
10050 Biochemical Methods-General
BIOSYSTEMATIC CODES:
75314 Diptera
85700 Mammalia-Unspecified
86375 Muridae

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